CLAIMS

What is claimed is:

1. A phantom for use with an imaging device, comprising:

a first portion including at least one group of vessel-like regions having a radiographically opaque quality, wherein the at least one group of vessel-like regions includes at least first and second vessel-like regions such that the first vessel-like region is larger than the second vessel-like region; and

a second portion rotatably coupleable to the first portion, the second portion having a testing region of material radiographically similar to human tissue.

2. The phantom as recited in claim 1, comprising a plurality of groups of vessel-like regions, wherein a first group of vessel-like regions comprises a first concentration of a radiographically opaque material and a second group of vessel-like regions comprises a second concentration of a radiographically opaque material.

3. The phantom as recited in claim 1, wherein the phantom is manually portable.

4. The phantom as recited in claim 1, wherein the testing region includes a first material radiographically similar to a first kind of human tissue and a second material radiographically similar to a second kind of human tissue.

5. The phantom as recited in claim 4, wherein the first and second materials are located adjacent to one another.

6. The phantom as recited in claim 1, wherein the radiographically opaque quality is a radio-opacity equivalent to iodine.

7. The phantom as recited in claim 1, wherein the radiographically opaque quality is a radio-opacity equivalent to barium.

8. The phantom as recited in claim 1, comprising an arm for rotating the first portion with respect to the second portion.

9. A phantom for use with an imaging device, comprising:

a first portion having at least one group of vessel-like regions extending from a first portion central region and towards a periphery of the first portion, wherein the at least one group of vessel-like regions has a level of a radiographically opaque quality; and

a second portion coupleable to the first portion and having a plurality of testing regions arranged circumferentially with respect to one another, wherein each testing region includes an attenuation material radiographically similar to a kind of human tissue.

10. The phantom as recited in claim 9, wherein at least one of the plurality of testing regions includes a first attenuation material radiographically similar to a first type of human tissue and a second emulation material radiographically similar to a second type of human tissue.

11. The phantom as recited in claim 10, comprising first and second testing regions, wherein the first testing region is configured to attenuate X-ray radiation more than the second testing region.

12. The phantom as recited in claim 11, wherein the first testing region is located towards the periphery of the first portion and the second portion is located towards the first portion central region.

13. The phantom as recited in claim 9, comprising a calibrating region.

14. The phantom as recited in claim 9, wherein the calibrating region includes at least one of copper and water.

15. The phantom as recited in claim 9, wherein the first and second portions are couplable to one another such that the at least one group of vessel-like regions overlaps the plurality of testing regions.

16. A phantom for use with an imaging device, comprising:

a first portion having at least first and second vessel-like regions each having a radiographically opaque quality, wherein the first vessel like region is larger than the second vessel like region; and

a second portion couplable to the first portion and including a first material radiographically similar to a first kind of human tissue located adjacent to a second material radiographically similar to a second kind of human tissue.

17. The phantom as recited in claim 16, wherein the first kind of human tissue is bone tissue.

18. The phantom as recited in claim 16, wherein the first kind of human tissue has a density greater than the second kind of human tissue.

19. The phantom as recited in claim 16, wherein the first and second materials comprise an epoxy.

20. A method for testing an imaging device, comprising:

producing a first radiographic image of a phantom having a plurality of vessel-like regions having a radiographically opaque quality extending radially from a central region of the phantom and a testing region including a first material radiographically similar to a first kind of human tissue a second material radiographically similar to a second kind of human tissue, wherein the phantom is in a first configuration; and

producing a second radiographic image of the phantom in a second configuration, wherein the vessel-like regions in the second configuration are repositioned with respect to the position of the vessel-like regions in the first configuration; and

producing a test image by subtracting the first image from the second image.

21. The method as recited in claim 20, wherein producing comprises producing a digital X-ray image.

22. The method as recited in claim 20, comprising stabilizing the imaging device via a calibration region located in the phantom.

23. A system for testing an imaging device, comprising:

means for producing a first radiographic image of a phantom having a plurality of vessel-like regions having a radiographically opaque quality extending radially from a central region of the phantom and a testing region including a first material radiographically similar to a first kind of human tissue a second material radiographically similar to a second kind of human tissue, wherein the phantom is in a first configuration; and

means for producing a second radiographic image of the phantom in a second configuration, wherein the vessel-like regions in the second configuration are repositioned with respect to the position of the vessels in the first configuration; and

means for producing a test image by subtracting the first image from the second image.

24. A computer program for testing an imaging device, the computer program being located on one or more tangible media, comprising:

code for producing a first radiographic image of a phantom having a plurality of vessel-like regions having a radiographically opaque quality extending radially from a central region of the phantom and a testing region including a first material radiographically similar to a first kind of human tissue a second material

radiographically similar to a second kind of human tissue, wherein the phantom is in a first configuration; and

code for producing a second radiographic image of the phantom in a second configuration, wherein the vessel-like regions are repositioned with respect to the position of the vessels in the first configuration; and

code for producing a test image by subtracting the first image from the second image.

25. A method for testing an imaging device, comprising:

providing a subtracted image of a phantom having a plurality of testing regions each region being configured to attenuate X-ray radiation at varying degrees arranged circumferentially with respect to one another and at least one group of vessel-like regions having a radiologically opaque quality overlappingly arranged with respect to the circumferentially arranged testing regions; and

analyzing the subtracted image to determine the smallest vessel-like region of the vessel group of vessel-like regions visible in the test region having the highest degree of attenuation to determine an upper limit of the imaging device.

26. The method as recited in claim 26, comprising: analyzing the subtracted image to determine the smallest vessel-like region of the group of vessel-like regions visible in the test region having the lowest degree of attenuation to determine a lower limit of the imaging device.

27. The method as recited in claim 27, comprising developing a performance standard for the imaging device based on the upper and lower limits of the imaging device.

28. The method as recited in claim 27, comprising calibrating the imaging device based upon the performance standard and a pre-determined ideal performance standard.

29. A testing system for an imaging device, comprising:

means for providing a subtracted image of a phantom having a plurality of testing regions each region being configured to attenuate X-ray radiation at varying degrees arranged circumferentially with respect to one another and at least one group of vessel-like regions having a radiologically opaque quality overlappingly arranged with respect to the circumferentially arranged testing regions; and

means for analyzing the subtracted image to determine the smallest vessel-like region of the group of vessel-like regions visible in the test region having the highest degree of attenuation to determine an upper limit of the imaging device.

30. A computer program for testing an imaging device, the computer program being located on one or more tangible media, comprising:

code for providing a subtracted image of a phantom having a plurality of testing regions each region being configured to attenuate X-ray radiation at varying degrees arranged circumferentially with respect to one another and at least one group of vessel-like regions having a radiologically opaque quality overlappingly arranged with respect to the circumferentially arranged testing regions; and

code for analyzing the subtracted image to determine the smallest vessel-like region of the group of vessel-like regions visible in the test region having the highest degree of attenuation to determine an upper limit of the imaging device.